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REMARKS/ARGUMENTS

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Claims 1-41 remain in this application. Claims 1, 4, 5, 6, 11, 18, 27, 28 and 29 have been amended. Claims 30-41 have been provisionally withdrawn without prejudice.

Claim 1 has been amended to recite that a selected portion is severed "from" the optical fiber, as supported by the Application as filed, for example at page 4 lines 15-16, page 16 lines 5-8, page 16 lines 18-19 and originally filed Claim 18 on page 25 lines 27-28. Claim 1 also now recites that the transition region forms the majority of the length of the selected portion, as supported by the Application as filed, for example at page 3 line 2, page 5 lines 14-15 and 21-22, and page 16 lines 15-17 and 23-27.

Claims 4, 5 and 6 have been amended to correct a typographical error: the space before the symbol/letter "m" was inadvertently missing in the claims. The symbol or letter "m" is an abbreviation that refers to the measure of distance in SI units, "meters", as defined under entry "42" for the letter "M" on page 1352 in the Webster's Third New International Dictionary of the English Language Unabridged (1993), a copy of which is enclosed herewith, and as understood from the Application as filed, for example at page 5 lines 24-28, page 21 lines 11-13 and originally filed Claims 36, 37, 38, and 39.

Claim 11 has been amended to recite "a temperature at which the preform consolidates" instead of "the consolidation temperature", as supported by the Application as filed, for example at page 19 lines 4-7.

Claim 18 has been amended to include "wherein the transition region occupies at least the majority of the length of the portion of the optical fiber", as supported by the Application as filed, for example at page 5 lines 14-15, and originally filed Claims 1 and 10. Claim 18 has also been amended to include "thereby forming the transition optical waveguide fiber" to provide antecedent basis for dependent claims and to clarify that the portion of the optical fiber containing the transition region becomes the transition fiber upon being severed from the remainder of the drawn optical fiber.

Claim 27 has been amended to recite that at least two interfaces are formed from at least three different types of pellets disposed within the fused silica tube, as supported by the Application as filed, for example at page 17 lines 1-11 and originally filed Claim 24.

Claims 28 and 29 have been amended to recite the "first pellet", as supported by the Application as filed, for example at page 10 lines 8-22 and page 11 lines 19-20.

1. Restriction Requirement

The Patent Office issued a Restriction Requirement identifying the following groups of claims as being drawn to potentially distinct inventions:

Group I. Claims 1-29, drawn to a method of making a fiber, classified in class 65, subclass 407; and

Group II. Claims 30-41, drawn to an optical fiber, classified in class 385, subclass 123.

The Patent Office asserted that these inventions may be regarded as independent and distinct from one another because Inventions I and II are related as process of making and product made, and that in the instant case the process as claimed in Group I, claims 1-29 can be used to make other and materially different product and the product as claimed in Group II, claims 31-41 can be made by another and materially different process, such as with a double-crucible method.

In a telephone conference with the undersigned attorney/agent of record dated 1 December 2003, a provisional election to Group I, claims 1-29 was made, with traverse.

Applicant hereby confirms that provisional election, with traverse.

Applicant respectfully disagrees that the product can be made by a double crucible method. Applicant is not aware of how the present invention could be made with the double crucible method. Furthermore, an optical fiber made with the double crucible method comprises low melting point glass which would be impractical, if not impossible, to fusion splice to silica fibers, and therefore double crucible method fibers would not be suitable as transition fibers (or bridge fibers) that are implemented to connect two silica fibers. Accordingly, reconsideration of the restriction requirement and consideration of Claims 30-41 are requested.

2. §112 Rejections

Claims 1-17 and 28-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The Patent Office asserts that there is no antecedent basis for “the majority” as stated in the last line of claim 1 and that there could be innumerable majorities. The Patent Office further asserts that claim 1 refers to severing and that the specification uses severing in two different senses: (1) cutting into two pieces (page 16, line 7), and (2) cutting off (page 16, line 18), and depending upon which sense is used, the claimed severing requires either (1) having the selected portion, and then severing that selected portion to create two (or more) portions whose two lengths, when added together will equal the length of the original selected portion; or (2) severing the selected portion from the rest of the fiber length, so as to result in a single, intact selected portion. The Patent Office asserts that it is unclear which definition/sense applies to the claim, and that when using the second sense, the specification used the preposition “from” (severing from) but the claim does not use this, and on the other hand, from the specification’s discussion of selected portion, it seems that it should be this second sense. The Patent Office states that when a term can have more than one definition, it must be clear which definition is being used.

As to claim 11, the Patent Office asserts that there is no antecedent basis for “the consolidation temperature”.

As to claim 28, the Patent Office asserts that it is unclear to which pellet “the pellet” refers to.

In view of the above amendments, the rejection is traversed. Applicant submits that the term “severing”, or “severed”, and the like, is clear from the Application as filed, including the Specification and Claims. Regarding page 16, line 7, the phrase “the fiber that will be severed” should be read in the context of the paragraph in which it appears, starting on page 16 line 5 (Spec. page 16, lines 5-8: “After the optical fiber containing the transition region is drawn, the transition region must be located and separated from the remainder of the drawn fiber. One preferred technique of selecting the points of the fiber that will be severed in order to remove the transition fiber is ...”). Thus, the drawn fiber is severed such that the transition fiber can be separated therefrom.

With regard to the assertion that there is no antecedent basis for “the majority”, Applicant submits that Claim 1 as amended recites “the majority of the length of the selected portion”, and as such the selected portion of optical fiber inherently has a length, and consequently inherently possesses a majority of its length, and thus does not require an antecedent recitation, per MPEP 2173.05(e).

In view of the above and the foregoing, Applicant requests reconsideration and withdrawal of the rejection.

3. §103 Rejections

The Patent Office has rejected claims 1-29 under 35 U.S.C. §103(a) as being unpatentable over Berkey EP 0737873.

Applicant traverses the rejection.

Applicant agrees with the assertion of the Patent Office that Berkey does not disclose severing, however, applicant submits that it would not have been obvious to sever the fiber of Berkey where the severed fiber contains at least part of a transition region wherein the at least part of the transition region forms the majority of the length of the select portion. Indeed, the removal of one or both ends of an optical fiber drawn from a single preform would not necessarily capture the transition region because the ends would be formed from the material of the first or last pellets, respectively and, importantly, an interface region would not be present at the end of a fiber.

Furthermore, although a random or arbitrary cut could be made of an optical fiber (for example, to create a clean, flat surface or to obtain an exact length of the fiber desired), a transition fiber having at least part of a transition region contained therein, wherein the transition region forms the majority of the length of the severed fiber, would not be readily obtained from Berkey. Furthermore, Applicant submits that a randomly selected portion of the drawn fiber, the randomly selected portion having a relatively short length (such as 10 meters) and the drawn fiber having a length of hundreds or thousands of meters, would most likely not result in the relatively short length having any of the transition region making up its length, and would even much less likely result in at least part of a transition region making up a majority of the length of the relatively short length.

Moreover, Berkey provides no motivation to arrive at the presently claimed invention. In fact, Berkey teaches away from the present invention by disclosing dispersion managed optical fibers for use in relatively long length optical fiber lengths (for example, over many kilometers). See column 22, lines 45-53, of Berkey which discloses two different types of tablets that were drawn into a continuous fiber having "oscillation lengths" of 1.2 to 2.5 km. Furthermore, Berkey teaches away from severing a portion of the fiber which contains at least a portion of the transition region from the remainder of the drawn optical fiber at, for example, column 7, lines 19-28, where Berkey teaches that the sub-lengths of reduced

diameter are evenly spaced to produce in the drawn optical fiber waveguide pairs of reduced and unreduced waveguide fiber-lengths which are integrally joined by a transition length, as seen in Berkey's Fig. 24b.

Applicant submits that the term "forms" is used clearly in the Specification of the Application. Applicant also submits that the phrases referred to by the Patent Office, i.e. "the majority comprises the transition region" and "the majority consists of the transition region", do not appear in the claims or the specification of the present application.

With regard to Claims 4-6, Applicant submits that a transition region would not be present at the starting end of the fiber, nor would a transition region be present at the ending length of the fiber, as discussed above. Applicant further submits that it would not have been obvious to sever a selected portion having a length of less than about 10 meters from the drawn optical fiber, wherein the selected portion contains at least part of a transition region and the at least part of the transition region forms the majority of the length of the selected portion. With regard to Claim 4, Applicant submits that very clearly the claim was intended to mean the selected portion has a length of less than about 10 meters. Similarly, Claims 5 and 6 were clearly intended to mean that the selected portion has a length of less than about 5 meters, or 3 meters, respectively. Claims 4, 5 and 6 are supported by the Application as filed, for example at page 5, lines 24-28, page 21, lines 11-13, and Claims 36, 37, 38 and 39. Accordingly, the terms "3m", "5m", and "10m" have been amended to correct the typographical error of the omission of the space before the abbreviation "m" in the Claims 4, 5 and 6, respectively.

Furthermore, the "selected portion", by definition, is not arbitrarily chosen: the selected portion must contain at least part of the transition region. In preferred embodiments, the selected portion has a length of less than about 10 meters. Berkey provides no motivation to randomly or arbitrarily choose a 3 meter length (or any other relatively small length) of fiber from the hundreds or thousands of meters of drawn optical fiber from a preform.

With regard to Claim 10, Applicant submits that Berkey does not clearly meet having a selected portion which contains essentially all of the transition region and wherein the transition region forms the majority of the length of the selected portion. In fact, the transition region, or transition regions, of Berkey would occupy a very small minority of the length of the selected portion.

As to Claims 16-17, the Patent Office refers to Berkey column 7, lines 19-28, as stating that lengths are joined, and that it would have been obvious to fusion splice two long fibers to make an even longer fiber.

Applicant submits that Berkey column 7, lines 19-28, refer to different sub-lengths that are integrally joined to each other during the draw process and are formed into a continuous length of drawn fiber without any splicing. Furthermore, Berkey does not teach fusion splicing those sub-lengths together.

Applicant notes that the Patent Office, in referring to Claims 4-6, states that selected portions at the starting end or the ending length of a fiber, or those having defective regions, should be as short as possible so as to minimize waste. Applicant notes that for purposes of obtaining the transition fiber of the present invention, hundreds if not thousands of meters of drawn optical fiber would be passed over (perhaps even discarded as waste) in order to arrive at a relatively short length of fiber containing at least a part of the transition region. Thus, the present invention can be regarded as opposite to the process of severing undesirable short lengths of fiber from the remainder of the fiber and discarding those short lengths in order to minimize waste, because "short lengths" are the fiber sections of interest in the present invention while the considerably longer lengths of drawn fiber that do not contain any part of the transition region could be discarded as waste as far as the present invention is concerned.

With respect to Claim 26, Applicant submits that beginnings and endings are not transition fibers. As understood from the Application, transition fiber is a fiber containing at least part of a transition region which was formed during draw from the stretching of the interface between first and second pellets.

As to Claim 27, Applicant submits that it would not have been obvious to try various pellets with various compositions as part of routine experimentation, and in particular using at least 3 different pellets in a single tube. Furthermore, whether a particular combination might be "obvious to try" is not a legitimate test of patentability. In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988), citing In re Geiger, 815 F.2d 868, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987), and citing In re Goodwin, 576 F.2d 375, 377, 198 USPQ 1, 3 (CCPA 1978). "Obvious to try" has long been held not to constitute obviousness. In re Deuel, 34 USPQ2d 1210, 1216 (Fed. Cir. 1995), citing In re O'Farrell, 853 F.2d 894, 903, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988). Accordingly, the rejection of Claim 27 should be withdrawn.

Regarding the term "type", Applicant submits that the term is described on page 10, lines 8-22, in the context of compositions, dopants, refractive indexes, and/or dispersions, and on page 12, lines 5-9, in the context of dispersions, and on page 16, lines 13-15, in the context of core types and/or mode field mismatch, and on page 20, lines 15-25, in the context of cut-off wavelengths, dispersions, and/or mode fields.

In view of the above and foregoing, Applicant requests reconsideration and withdrawal of the rejection.

4. Conclusion

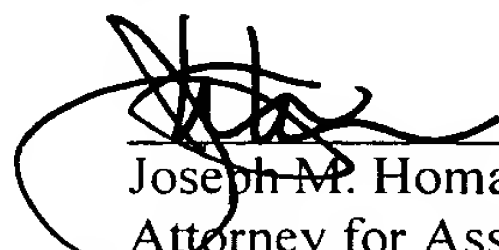
Based upon the above amendments, remarks, and papers of records, Applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant believes that no extension of time is necessary to make this Reply timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Joseph M. Homa at 607-974-9061.

Respectfully submitted,

DATE: 8 MARCH 2004



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**WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY
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Library of Congress Cataloging in Publication Data
Main entry under title:

Webster's third new international dictionary of the English language,
unabridged: a Merriam-Webster/editor in chief, Philip Babcock
Gove and the Merriam-Webster editorial staff.

p. cm.
ISBN 0-87779-201-1 (blue sturdite).—ISBN 0-87779-202-X
(carrying case). — ISBN 0-87779-206-2 (imperial buckram).

1. English language—Dictionaries. I. Gove, Philip Babcock,
1902–1972. II. Merriam-Webster, Inc.
PE1625.W36 1993
423–dc20

93-10630
CIP

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4647AG/H9594

lyx-o-flavin \ˈlɪksə- + \n [lyx- + /flavɪn]: a yellow crystalline compound $C_{17}H_{20}N_4O_6$ isolated from heart muscle and some isomeric with riboflavin but derived from lyxose
lyx-ose \ˈlɪks-əs, -əz/ n -s [anagram of xyl-ose]
aldose sugar $HOCH_2(CHOH)_3CHO$ that is a crystalline xyl-ose and that is prepared by degradation of galactose
-lyze also -lyse \ˈlɪz/ vb comb form -en/-ing/-s [ISV, prob. irreg. fr. NL *-lysis* + ISV *-ize* or *-ise*]: to produce or undergo lytic disintegration or dissolution (electrolyze) (typolyze) (solvol-lyze)
LZ abbr landing zone